

In the Claims:

1. (Currently amended) A method ~~[[for]]~~ of determining a steering torque for the steering wheel of a motor vehicle, wherein a steering angle for the steered wheels is predefined by ~~[[the]]~~ a driver of the vehicle by means of the steering wheel using a continuous mechanical connection between the steering wheel and the steered ~~wheels with a wheels,~~ whereby an actual steering-wheel torque ( $M_{ist}$ ) which represents the actual forces on the vehicle axle ~~[[being]]~~ is active, said steering-wheel torque being caused as a result of the continuous mechanical connection existing between the steering wheel and the steered wheels, and wherein a plurality of axle models representing characteristics of an axle of the motor vehicle are provided, an actual driving situation is determined from measured values, one of the axle models is selected as a selected axle model that is more favorable for the actual driving situation than one or more other axle models, a desired manual torque ( $M_{soll}$ ) which is superimposed on the steering-wheel torque ( $M_{ist}$ ) is determined using at least one axle model. the selected axle model, and a steering actuator is actuated responsive to any difference between the actual steering-wheel torque ( $M_{ist}$ ) and the desired manual torque ( $M_{soll}$ ) so as to adjust said actual steering-wheel torque ( $M_{ist}$ ) toward said desired manual torque ( $M_{soll}$ ).

1     **2.**     (Currently amended) The method as claimed in claim 1,  
2     characterized in that the desired manual torque ( $M_{soll}$ ) is  
3     determined ~~[[in]]~~ such ~~[[a-way]]~~ that ~~actuation~~ turning of  
4     the steering wheel by the driver in a direction which is  
5     favorable in terms of vehicle movement dynamics is made  
6     easier than according to the actual steering-wheel torque  
7     ( $M_{ist}$ ).

Claims 3 to 11 (Canceled).

1     **12.**    (Currently amended) The method as claimed in claim 1,  
2     characterized in that, by virtue of the fact that ~~the~~  
3     ~~steering torque ( $M_{soll}$ ) is superimposed on~~ the  
4     steering-wheel torque ( $M_{ist}$ ) is adjusted toward the  
5     desired manual torque ( $M_{soll}$ ), the driver is prompted to  
6     perform a steering action on the steering wheel which  
7     generates steering angles which correspond to a better  
8     driving behavior of the vehicle.

Claim 13 (Canceled).

1     **14.**    (Currently amended) The method as claimed in claim 1,  
2     characterized in that the desired manual torque ( $M_{soll}$ ) is  
3     determined ~~[[in]]~~ such ~~[[a-way]]~~ that ~~actuation~~ turning of  
4     the steering wheel by the driver in a direction which is  
5     unfavorable in terms of vehicle movement dynamics is made  
6     more difficult than according to the actual steering-wheel  
7     torque ( $M_{ist}$ ).

1 15. (Currently amended) The method as claimed in claim 1,  
2 characterized in that the ~~manual torque (M\_soll)~~ is  
3 ~~determined by means of a model, in particular~~ selected axle  
4 model is provided by an observer.

1 16. (Currently amended) The method as claimed in claim 1,  
2 characterized in that the ~~manual torque (M\_soll)~~ is  
3 ~~determined from~~ selected axle model comprises a  
4 characteristic diagram.

1 17. (Currently amended) The method as claimed in claim 1,  
2 characterized in that the ~~manual torque (M\_soll)~~ is  
3 ~~determined as~~ selected axle model comprises a function of  
4 ~~a travel situation which is derived from measured~~  
5 ~~variables.~~ the driving situation.

Claim 18 (Canceled).

1 19. (Currently amended) The method as claimed in ~~claim 18,~~  
2 claim 1, characterized in that the desired manual torque  
3 (M\_soll) is determined ~~[[in]]~~ such ~~[[a way]]~~ that ~~[[the]]~~  
4 a resulting torque from the actual steering-wheel torque  
5 (M\_ist) and the desired manual torque (M\_soll) correspond  
6 to ~~[[the]]~~ a steering-wheel torque of the ~~favorable~~  
7 selected axle model.

1    **20.**   (Currently amended) The method as claimed in claim 1,  
2           characterized in that the manual torque (M\_soll) is  
3           determined as a function of at least one value obtained  
4           from ~~the setpoint~~ a desired driving behavior and an actual  
5           driving behavior.

1    **21.**   (Previously presented) The method as claimed in claim 1,  
2           characterized in that the manual torque (M\_soll) is  
3           determined taking into account at least one of the  
4           vehicle-related variables comprising the steering angle,  
5           yaw rate, rolling speed, pitch rate, vehicle speed, wheel  
6           speeds, wheel braking pressure, wheel acceleration,  
7           longitudinal acceleration, lateral acceleration, vertical  
8           acceleration, steering torque and wheel supporting forces.

1    **22.**   (Previously presented) The method as claimed in claim 1,  
2           characterized in that the manual torque (M\_soll) is  
3           determined as a function of at least one device for sensing  
4           the road profile such as a navigation system or a visual  
5           sensing device.

Claim **23** (Canceled).

1    **24.**   (New) A method of determining a steering torque for a  
2           steering wheel of a motor vehicle with a continuous  
3           mechanical steering linkage between the steering wheel and  
4           steered wheels of the motor vehicle, said method comprising  
5           the steps:

- a) providing plural axle models representing characteristics of an axle of the motor vehicle;
- b) obtaining measured values regarding a driving situation of the motor vehicle, and from the measured values determining an actual driving situation;
- c) selecting one of the axle models as a selected axle model dependent on and responsive to the actual driving situation;
- d) determining a desired torque ( $M_{soll}$ ) based on and dependent on the selected axle model;
- e) determining an actual torque ( $M_{ist}$ ) representing actual forces acting on the steering wheel; and
- f) actuating a steering actuator effective on the mechanical steering linkage in response to any difference between the actual torque ( $M_{ist}$ ) and the desired torque ( $M_{soll}$ ) so as to adjust the steering torque toward the desired torque ( $M_{soll}$ ).

**25.** (New) An apparatus for determining a steering torque for a steering wheel of a motor vehicle with a continuous mechanical steering linkage between the steering wheel and steered wheels of the motor vehicle, and with a steering actuator effective on the mechanical steering linkage, said apparatus further comprising:

- a) means for providing plural axle models representing characteristics of an axle of the motor vehicle;
- b) means for obtaining measured values regarding a driving situation of the motor vehicle, and from the

11 measured values determining an actual driving  
12 situation;  
13 c) means for selecting one of the axle models as a  
14 selected axle model dependent on and responsive to the  
15 actual driving situation;  
16 d) means for determining a desired torque ( $M_{soll}$ ) based  
17 on and dependent on the selected axle model;  
18 e) means for determining an actual torque ( $M_{ist}$ )  
19 representing actual forces acting on the steering  
20 wheel; and  
21 f) means for actuating the steering actuator in response  
22 to any difference between the actual torque ( $M_{ist}$ )  
23 and the desired torque ( $M_{soll}$ ) so as to adjust the  
24 steering torque toward the desired torque ( $M_{soll}$ ).

**[RESPONSE CONTINUES ON NEXT PAGE]**